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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 09/761,671

Filing Date: January 18, 2001

Appellant(s): EDER, JEFFREY SCOTT

B. J. Bennett
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed October 3, 2006 appealing from the Office action mailed August 1, 2006.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The following are the related appeals, interferences, and judicial proceedings known to the examiner which may be related to, directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal:

09/688,983, 10/329,172 and 10/282,113

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is incorrect.

The amendment after final rejection filed on July 7, 2006 has not been entered.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

Bielinski, Daniel W., "How to sort out the premium drivers of post-deal value" *Mergers and Acquisitions*: Jul/Aug 1993, Vol. 28, Iss. 1; pg. 33, 5 pgs.

Brown, Carol E, Coakley, James, Phillips, Mary Ellen, "Computers" *Management Accounting*, Montvale, May 1995.

Mills, Roger W., Robertson, John, Ward, Tim. "Strategic Value Analysis: Trying to Run Before You Can Walk" *Management Accounting*. London: Nov. 1992. Vol. 70, Iss. 10; pg 48, 2 pgs.

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 69-103 are rejected under 35 U.S.C. 103(a) as being unpatentable over "How to sort out the premium drivers of post-deal value" Bielinski, Daniel W. *Mergers and Acquisitions*: Jul/Aug 1993, Vol. 28, Iss. 1; pg. 33, 5 pgs (hereinafter Bielinski), further in view of "Computers" Brown, Carol E, Coakley, James, Phillips, Mary Ellen, *Management Accounting*, Montvale, May 1995 (hereinafter Brown).

Regarding claims 69, 70, 72-76, Bielinski teaches valuation tool for integrating transaction data for a commercial enterprise in accordance with a common data dictionary; using

model to identify one or more value drivers (key factors or value drivers), such as growth, profit margins, etc are varied systematically to test the sensitivity of the indicated business value to each driver (pp1) ... assessing changes in one value driver at a time, elements of value selected from the group consisting of brands, customers, employees intellectual capital, partner etc. (pp 1-2); identifying value drivers (sensitive analysis of past results offers clues to what can be done in the future and which value drivers should receive the most attention to achieve optimal rewards) (see pp 1); use of models to complete analyses ... (see page 3). Bielinski teaches use of computerized models to estimate the value of a company and to guide them in setting purchase price. Bielinski states, relatively few buyers take advantage of the capabilities of these models to enhance their due diligence and formulate strategies for increasing the cash flow and enhancing the value of their acquired targets... indeed as the art of modeling has progressed, new methodologies have been developed and applied to actual transaction in the market to sharply widen the utility and versatility of computer-based valuation value. Bielinski does not explicitly teach neural network models using the indicators and a portion of the data in order to identify value driver candidates. Brown teaches valuation using neural network and training neural network models for aspects of financial performance using indicators (see pgs 1-2 and 5-6). It would have been obvious to one of ordinary skill in the art at the time of applicant's invention was made to implement Browns teaching by using neural network to analyze data, since it is well known that neural network increase score prediction accuracy and enable fast accurate score model implementation. Bielinski teaches financial performance selected from group consisting of revenue, expense, capital change etc., (see pp 2).

Regarding claim 71, Bielinski teaches identifying changes that optimize financial performance, however failed to teach the use of Markov Chain Monte Carlo model or use genetic algorithms. Official notice is taken that is old and well known in the art of finance to use optimization tools. It would have been obvious to one of ordinary skill in the art to use such model and other forms of optimization to maximize profit.

Regarding claims 77-103, Bielinski teaches aggregating enterprise related transaction data from one or more enterprise management system, creating performance indicators, analyzing historical and forecast data for aspects of financial performance using indication algorithms and value driver candidates and creating impact summaries (see page 1-5). Bielinski teaches using computerized models to estimate the value of a company, facilitating value creation, analyzing historical data and forecast data, however does not teach training neural network models for one or more aspects of financial performance using performance indicators. Brown teaches valuation using neural network and training neural network models for aspects of financial performance using indicators (see pgs 1-2 and 5-6). It would have been obvious to one of ordinary skill in the art at the time of applicant's invention was made to implement Browns teaching by using neural network to analyze data since it is well known that neural network increase score prediction accuracy and enable fast, accurate score model implementation. Bielinski teaches financial performance selected from the group consisting of revenue, expense, capital change, cash flow etc., (see pgs 1&2). Bielinski teaches logged or recorded events for transaction data (see pg. 2). Bielinski teaches element of value selected from the group consisting of brands, customers, employees, etc., analyzes calculated for specific point in time, a net contribution of each element of value (see pg 2).

(10) Response to Argument

Appellant provided different scenarios why the two prior art cannot be combined.

Appellant asserts that both Bielinski and Brown describe methods for analyzing changes in market value of a firm but argues that Brown describes use of neural network by Deere to analyze changes in stock price and Bielinski describes Value Based Management. Appellant concludes that the two documents teach diametrically opposed method for analyzing and completing the same tasks and in doing this they teach away from the proposed combination in a

....

Examiner relied upon Bielinski to show that valuation tools are used to value companies (commercial enterprise) by integrating transaction data based on historical operation (using BVM) or future projection (SVA). Bielinski also teaches that in complex modeling, varying three or more value drivers concurrently is also possible (see page 3). Brown was relied on to teach that neural network was introduced for credit approval, detecting fraudulent transaction, etc. Brown also teaches that there are many other financial applications that use neural network and provides examples such as forecasting future sales, prices and future costs and also property valuation. Appellant states in the article Deere & Co. uses a neural network to manage portfolio and uses forty indicators therefore, it would be improper to combine a method that relies on the principle that are only three determinants of market value with a method that teaches 40 determinants for market value. Examiner agrees that the article provides one example how the neural network is used but does not agree that the neural network only works with 40 indicators. Examiner provides support that seven value drivers are proposed by Rapport (see Mills). The Examiner also provides support that neural network can be trained to make

prediction of performance of a stock (see Barr). According to Barr, the network is trained using different sets of inputs (and corresponding outputs), tested on two different sets of data (termed test set and validation set) and then used to make forecasts using current market data. The type of indicators and the process of selecting values to be used as input data to the neural nets are determined by factors such as how far ahead the system is forecasting (its time horizon), the presence of periodicities in the data and the correlation between the indicator and the performance of the stock, the indices of the capital market, etc. and following the selection of input indicators, each neural network is trained with the available historical data ... (see col. 3 line 52 to col. 4 line 50). Brown teaches that a large database is needed to train a neural network (see page 2).

Examiner would like to point out that a proper combination under 35 U.S.C. 103 does not require bodily incorporation of the teaching of one reference into another, paying no attention to what the artisan of ordinary skill would consider in making the combination. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981).

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, it would have been obvious to one skilled in the art to use neural network instead, since large amount of historical data are available (due to improved technology) to train

the network. In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Yehdega Retta

Conferees:

Eric Stamber *ES*

Donald Champagne

Yehdega Retta
RETTA YEHDEGA
PRIMARY EXAMINER